

REMARKS

This Amendment responds to the office action dated November 4, 2004.

The Examiner objected to claims 32-34 because independent claim 32 did not provide antecedent basis for the term "said frame." Claim 32 has been amended to overcome this objection.

The Examiner rejected claims 32-36 under 36 U.S.C. § 103(a) as being obvious in view of the combination of Mizoguchi, U.S. Patent No. 6,621,578 and Moodie, U.S. Patent No. 3,743,381. For the reasons stated below, this rejection was improper because these two references may not be properly combined.

Mizoguchi discloses an ellipsometer intended to measure the optical characteristics of test material by directing a beam of light through both the test material and reference material that has known optical properties. Crucial to the effectiveness of the ellipsometer is that the light passing through the sample and reference materials be plane polarized in a single direction and be of a sufficient intensity so that the output beam may be reliably analyzed. *See, e.g.* Mizoguchi at col. 1 lines 48-53 and col. 8 lines 48-56. To this end, Mizoguchi discloses a half wave plate 202 positioned between a beam emitter 132 that emits plane polarized light, and a plane polarizer 138. Acknowledging that the light from the emitter 132 will likely not be polarized exactly in the same direction as the plane polarizer 138, Mizoguchi discloses that the half wave plate may be rotated to a position that provides such a desired alignment. The half wave plate provides a multiplication factor of two, i.e. rotation of the plate by 90 degrees changes the polarization direction of the beam by 180 degrees. *See Id.* at col. 9, lines 15-20. Further, because the rotational adjustments of the half wave plate must be highly accurate to provide the desired polarization

match, Mizoguchi discloses that "the fixed frame 214 may have an angular adjusting mechanism for adjusting an angle of the moveable frame 212 about the axis 216, *such that the angular adjustment mechanism, which has a rotatable input axis, converts the rotation of the input axis into a relatively minute angular change of the moveable frame.*" In other words, rotation of the input knob or other mechanism must be stepped down to produce a much smaller angular rotation of the half wave plate.

Moodie, conversely, discloses a polarizer in an airplane window with an adjustment handle only capable of moving a small distance, where the polarizer should be capable of rotation up to either 72 or 90 degrees, depending on which of Moodie's disclosed embodiments is used. Therefore, Moodie's disclosed mechanism has a *step-up* feature, where small linear movement of the adjustment knob rotates the polarizer by a disproportionately large angle. *See* Moodie at col. 5 lines 1-10. For that reason, were Moodie's angular adjustment mechanism to be used in Mizoguchi's ellipsosometer, the ellipsosometer would not function to allow the necessary minute adjustment of the orientation of the plane polarized light. Therefore, the Examiner's proffered combination of Mizoguchi with Moodie is improper. *See* MPEP § 2143.01 (proposed modification cannot render prior art unsatisfactory for its intended purposes); *see also* MPEP § 2145 (references cannot be combined where reference teaches away from the combination).

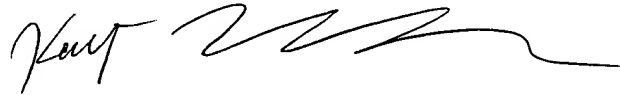
Furthermore, neither Mizoguchi nor Moodie disclose an angular adjustment mechanism that rotates either a polarizer or a half wave plate by more than 90 degrees. This is because neither of the devices disclosed by these two references needs to provide a greater rotation. Because Mizoguchi only needs to match two polarization directions, the maximum necessary

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rotation of the polarization state of the input beam is 180 degrees; but a half wave plate need only rotate 90 degrees to provide that 180 degree rotation of the polarization state of the light beam. Similarly, Moodie only needs to provide a maximum rotation of a polarizer of 90 degrees to either align the polarizer with another one (allowing light to pass) or offsetting by 90 degrees the polarizer with another one (blocking light). Therefore, even if the proffered combination of Moodie with Mizoguchi were appropriate, the combination would still not provide all the limitations of claims 35 and 36, which require rotation greater than 180 degrees and 90 degrees, respectively.

In view of the foregoing amendment and remarks, the applicant respectfully request reconsideration and allowance of claims 32-36.

Respectfully submitted,



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